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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,035	09/27/2005	Yasushi Sano	136097	4025
25944 7590 02/18/2010 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER YANG, JIE				
ART UNIT 1793		PAPER NUMBER		
NOTIFICATION DATE 02/18/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com  
jarnstrong@oliff.com

# Office Action Summary

**Application No.**

10/551,035

**Applicant(s)**

SANO ET AL.

**Examiner**

JIE YANG

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) 3-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/9/2009 has been entered.

### ***Status of the Claims***

Claims 3-12 are withdrawn as non-elected claims, and claim 1 remains for examination. No amendments to the claims have been made.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolski (US 5834140, thereafter, US'140).

US'140 is applied to the claim 1 for the same reason as stated in the previous rejections dated 7/16/2008 and 3/9/2009.

### ***Response to Arguments***

Applicant's arguments filed on 11/17/2008 with respect to claim 1 have been fully considered but they are not persuasive.

The 132 Affidavits under 37 CFR 1.132 filed on 12/09/2009 is insufficient to overcome the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Wolski (US 5834140, thereafter, US'140) as set forth in the last Office action because: although the Applicant provides Rz of roughness and gloss surface and Gs data of Cu foils prepared under conditions of Wolski et al (US'140), there is no sample which having roughness close to the low limit of Rz: about  $0.6\mu\text{m}$  as taught by US'140. Three of four samples in the table 1 (samples 1, 2, and 4) of the 132 Affidavits under 37 CFR 1.132 filed on 12/09/2009 have Rz over  $2.1\mu\text{m}$ , which are not in the range of US'140's samples. All the samples in table 1 of the 132 Affidavits under 37 CFR 1.132 filed on 12/09/2009 have no elongation data. Therefore, the data in the 132 Affidavits filed on 12/09/2009 can't represent the data of the US'140's copper foil.

Applicant's arguments are summarized as follows:

Merely because the copper foil of Wolski allegedly has a similar Rz and elongation as recited in claim 1, it would not necessarily have degree of mirror gloss of roughness surface (Gs) as recited in claim 1 because there is not necessary a

correlation between surface roughness ( $R_z$ ) and surface uniformity ( $G_s$ ). The further evidence is shown in "The 132 Affidavits" under 37 CFR 1.132 filed on 12/09/2009.

Responses are as follows:

As discussed above, the 132 Affidavits under 37 CFR 1.132 filed on 12/09/2009 is insufficient to overcome the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Wolski (US 5834140, thereafter, US'140). The Applicant has not provided persuasive evidence or data to prove that the other method, for example the process of Wolski (US'140) can not obtain Cu foil with the claimed features.

Furthermore, as pointed out in the previous office actions marked 7/16/2008 and 3/9/2009, Wolski (US'140) clearly teaches the copper foil has flatter surface on both surface as compared with the conventional ones (Col.1, lines 7-19 of US'140) and the copper crystal can be made fine and a plating surface having less unevenness can be obtained (Col.5, lines 7-17 of US'140). Although US'140 does not specify the degree of mirror gloss of the roughness surface, because US'140 teaches the same flat low roughness copper foil with the similar  $R_z$  (0.6-2.1 $\mu$ m) and percent elongation (10.0% or higher) at 180°C made by the similar electrodeposition process as recited in the instant invention, therefore, it is the Examiner's position that the property that surface uniformity of the foil with degree of mirror gloss of the roughness surface, measured by  $G_s$  (85°) in accordance with JIS (Japanese Industrial Standard) Z8741 is 100 or more would inherently be expected in the US'140 foil.

***Conclusion***

This is a RCE of applicant's earlier Application No. 10/551035. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

/Roy King/  
Supervisory Patent Examiner, Art Unit 1793